The Canadian Entomologist.

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THE AMERICAN ASSOCIATION.

The *twenty-first* meeting of the American Association for the Advancement of Science was held at Dubuque, Iowa, in the month of August last, commencing on the 21st and closing on the 27th inst. As regards the attendance and number of papers read, the meeting was certainly quite up to the average, but in scientific interest and value we cannot think it comparable to many in previous years. This deficiency was owing very largely, no doubt, to the change of locality almost at the last moment, viz., from San Francisco to Dubuque—the shores of the Pacific to the banks of the Mississipi. Several leading scientific men in the eastern States, finding the time and expenditure necessarily required for a visit to California beyond what they could well afford, had made other arrangements for the employment of their summer holiday, which the late change of place gave them no opportunity of altering. Others again, notably Prof. Agassiz and his party, were absent from the country, and could not in any case have taken part in the proceedings. Hence the meeting was shorn of many of its usual attractions, and has failed, we think, to leave any very decided mark upon the scientific annals of the country.

While the meeting was thus defective in one point of view, it certainly was a great success in another. *Socially*, it left nothing to be desired. The kindness and hospitality of the good people of Dubuque was so universal and unvaried, that all must have thoroughly enjoyed their visit, even though it was not especially distinguished by gorgeous receptions and gay fashionable entertainments, such as have sometimes rather interrupted the proper proceedings of the Association in cities of greater size and wealth.

We do not propose to give a detailed history of the meeting, or a particular account of the papers read; the former can be obtained by those desiring it in the current issues of many leading newspapers, especially those of Dubuque, Chicago, and New York; and the latter will no doubt be furnished, as usual, in the pages of the excellent *American Naturalist*, as well as in the Annual Transactions of the Association. We shall merely regard the meeting from an Entomological point of view—the most interesting, probably, to the majority of our

readers. Before proceeding to do so, however, we must not omit to draw special attention to what was really the grand feature of the meeting—the retiring President, Professor Gray's, able and most interesting address, and to recommend its perusal to all our readers.

The only entomological paper read in Section B, "Natural History," was a very interesting one by Mr. C. V. Riley, on "The Fertilization of the Yucca Plant by *Pronuba Yuccasella*;" it was listened to with marked attention, and was followed by an animated discussion, in which Prof. Gray, Mr. Morse and others took part. It will, we believe, be published very shortly by the author, but meanwhile we may give a base outline of its leading features. It appears that the American Yuccas possess flowers so peculiarly constructed, that it is impossible for the pollen to reach the stigma, and consequently they depend upon artificial means for their fertilization. Mr. Riley has discovered that the "marriage priest" is a small white moth, hitherto unknown to science, which he has named *Pronuba Yuccasella*, and considers the type of a new genus. The most remarkable feature in the insect is that the female (not the male) has the basal joint of the maxillary palpus developed in a most extraordinary manner into a long curved tentacle furnished with spines. With this process the insect collects the pollen and conveys it to the tube of the stigma, which it could not otherwise reach; she then lays her eggs, the larvæ from which feed upon the seeds of the Yucca fruit. The larva escapes to the ground when full grown, and passes the winter there in a silken cocoon. Mr. Riley remarked that in the more northern portions of America, where the Yucca had been introduced for the sake of its ornamental flowers, it never bore seed on account of the absence of this insect; by the introduction of this moth, however, the defect might without difficulty be remedied.

A matter of much interest to the entomologists present, and which will probably prove of importance hereafter, was the formation of an Entomological Sub-section. On Saturday, the 24th of August, during the general meeting of the Association, a notice was read requesting those interested in this department of Natural History to meet together at the close of the morning session for the purpose of consulting together respecting the organization of a Sub-section. At the time appointed, the following members were present: Rev. Dr. Morris, of Baltimore, Md.; Mr. C. V. Riley, St. Louis, Mo.; Dr. G. M. Levette, Indianapolis; Mr. O. S. Westcott, Chicago; Rev. C. J. S. Bethune, Port Hope, Ont.; Mr. W. Saunders, London, Ont., and Miss M. B. Norton, Rockford, Ill.

Dr. Morris was unanimously elected Chairman, and Mr. Saunders Secretary. It was then moved by Mr. Bethune, and resolved, that "if it be found necessary, the Chairman and Secretary be requested to communicate with the Standing Committee of the Association, with a view to the organization of an Entomological Sub-section." The following gentlemen were appointed members of the provisional Committee of the Sub-section: Rev. C. J. S. Bethune, Messrs. C. V. Riley, and O. S. Westcott. The meeting then adjourned till 7 o'clock p.m.

At the evening meeting there were present, in addition to those mentioned above, Messrs. H. H. Babcock, Chicago; M. S. Bebb, Fairmont, Ill.; J. H. Blodgett, Rockford, Ill.; H. C. Warner, Claremont, Iowa, and C. M. Weatherby, Dubuque, Iowa.

The Chairman having announced that it would be necessary to obtain the consent of the Standing Committee before a Sub-section could be legally organized, it was resolved that the Secretary be requested to inform the Permanent Secretary of the Association that it is deemed desirable by the entomological members that a Sub-section of Entomology should be formed in Section B.

It was then moved by Mr. Riley, and resolved, that a committee be appointed to draft a set of rules for adoption at the next meeting of the Association on the subject of entomological nomenclature. The Chairman nominated the following committee:—Messrs. Riley, Bethune, Packard (Salem), Saunders and Morris.

The meeting then proceeded to discuss the "Revision of American Butterflies" recently put forth by Mr. S. H. Scudder, in advance of his forthcoming work on the Butterflies of North America. There was a unanimous expression of regret and disapprobation on the part of those present at the wholesale and radical changes proposed by this distinguished author in the generic and specific names of the butterflies of this Continent. The feeling was manifested by all, that changes so radical and so sweeping in the received nomenclature were uncalled for, and would prove of great detriment to the study and popularity of this department of entomology. The hope was strongly expressed by all, that Mr. Scudder would reconsider his proposed changes before the publication of his great work, which is looked forward to with so much interest by all lepidopterists, and not mar to a great extent its usefulness, or injure its general acceptance.

The meeting then adjourned. At the general meeting of the Association on the following Monday, a recommendation was brought forward

by the Standing Committee to the effect that the formation of a Sub-section of Entomology in Section B be authorised by the Association, and the necessary amendment to the Constitution be brought up for adoption at the next annual meeting. This recommendation was unanimously adopted by the meeting, and will no doubt be ratified next year; we may, therefore, look upon the "Sub-section of Entomology" as an accomplished fact. We trust that our readers will now do what in them lies to make it a useful and attractive portion of the Association, and not allow so good a vantage ground to be lost by apathy and indifference. We would venture to suggest to the Committee that they should, at an early date, announce some special department of entomology to be taken up by the meeting next year, in addition to any subjects that may be brought into discussion by the papers of individual members. Such a plan, though not perhaps quite in accordance with precedent, would, we think, add value and attractiveness to the meeting, and possibly bring together more of our "brethren of the net" than usually attend on such occasions.

The proceedings of Monday brought the actual work of the meeting pretty well to a close; few of the members, however, returned to their homes without first going upon one or more of the interesting excursions that were made to various localities in the neighbourhood. These, we feel sure, were heartily enjoyed by all who took part in them, even though some—like the writer—may not be able to avoid occasional painful reminiscences of a crawl through a lead-mine, or a night among the Sioux City mosquitoes.

The next meeting is to be held on the shores of the Atlantic at Portland, Maine, and will, we trust, prove as agreeable a reunion as the one lately brought to a close on the far away banks of the Mississippi.

ON THE GEOGRAPHICAL DISTRIBUTION OF SOME GENERA OF CANADIAN INSECTS.

BY FRANCIS WALKER, F.L.S., LONDON, ENGLAND.

The study of the geographical distribution of Insects acquires additional interest by its connection with astronomical calculations, and with geological researches. From them it is understood that the earth was once covered with snow and ice from the poles to the tropics, and that the like event may recur in the future, and restore the hemispheres

generally to the freshness and newness which they possessed at the close of the glacial period. The beginning of the cessation of this period corresponds with the origin of the present distribution of insect life, or with the commencement of the ascent of the individuals from the tropics towards the poles. This is represented on a small scale every year in the change from winter to summer, and the two periods of time agree with two aspects of the earth, the transition from the tropics towards the poles, and the upward extent of an alp, the latter being more or less an epitome of the former. It may be said by those who do not believe in the migration and settlement of insects, that the species were created in the districts which they now occupy. In this case it would appear that their creation was successive, and that they came into existence more northward and southward in proportion as the glacial climate receded. But, as each district became fitted for the maintenance of insect life, the inhabitants of the neighbouring district would be ready to occupy the vacant ground, and it is well known that the same species of insect often occurs in two or more widely separated regions. One species inhabits Europe and Chili, and may have migrated from the tropics northward and southward as the climate changed. There are indications that the tropic land was formerly much larger in extent than it is now, and would have afforded space for the multitude of insects which now inhabit the comparatively narrow temperate regions. A third explanation of the distribution of insects is the supposition of the origin of existing species by modifications of previous and now extinct organisms. No kind of insect life has been traced back to its beginning, and the blending of species which occurs in some genera locally (e.g. the Dipterous genera Laphria and Dacus), and which may be interrupted in other genera by the extinction of former connecting links, is no proof that each species did not first appear in the form which it now assumes, and the blending before mentioned represents the oneness and harmony of creation, and the unity of its Author.

The word "species" is only conventional, to express a difference, and there is no proof as to its beginning in two, in a few, or in many individuals, or that the differences were not formerly closed up by the links which are now extinct. Long periods of time have been described in the figures of short and regularly recurring divisions, and thus the occurrences therein are more readily comprehended, and in like manner the long space of earth and the long extent of time before mentioned are

understood being represented by the corresponding small part of earth and the short period of time.

The aspects from the arctic regions are more impressive than the views from the summits of mountains, and the latter renew the remembrance of the former when both have been seen in succession. Visitors of mountain-tops may have observed, in a hot, still, misty day, multitudes of insects borne to the summit from the plains below, and filling the air, which at other times is free from them, and this is like to the sudden migration of species, from the south to the north, which occurs in Europe during some seasons.

In studying the fauna of a mountain, it is most suitable to begin with the top, and to trace it downward, where the agencies or forms of life become successively more numerous and complicated in their mutual adaptations and limitations, all being as wheels which serve to regulate the great living mechanism of which they are the parts. In like manner in noticing the faunas of the two primary mountains into which the earth is divisible, their summits being the poles, and the equator their common base, it is advisable to begin with the arctic species or with those which have ascended to the highest latitudes. The differences in soil, in vegetation, and in elevation, facilitate or hinder migration and settlement of insects, and help to effect the variety of distribution, which is one of the chief attractions in the aspects of Nature.

Leucospis is a genus of Chacidice, and has several peculiarities of structure. None of the species occur in abundance, and the very few whose economy has been observed are parasites of aculeate Hymenoptera. It is well known that the very general colour of the Chalcid tribe is metallic, most often coppery or golden green, but Leucospis seems to have almost grown out of this hue, though it retains sufficient to indicate the transition between it and most of the other Chalcid families. This lustre in Leucospis appears chiefly on the face, but in some species it is spread more or less over the body. In the single species (L. affinis) which inhabits Canada, and whose geographical range extends from thence to Texas, it is wholly absent, and there is no trace of it in the species inhabiting Arabia, North Africa, and Europe. A few species occur in the United States, and the genus is more numerous in Mexico, in the West Indies, and in the Amazon region. On the eastern slope this genus inhabits Japan, China, Hindostan, Arabia, the Mediterranean region, and more rarely the interior of France, Switzerland, and Germany.

In the latter countries, beginning with Arabia, the arrangement of its colours, more or less indicated by the species of other districts, appears to be most established, and it therein mimics some of the wasp-tribe, such as Odynerus. In the other hemisphere, it appears on the west side in Chili, and on the eastern side in South Africa and in some of the Australian Isles, and in Australia.

CIRRHOPHANUS TRIANGULIFER, *nov. gen. et. sp.*

BY AUG. R. GROTE, DEMOPOLIS, ALA.

This genus of North American *Noctuidæ* appears allied to the species we have described under the genus *Gortyna*. The habitus is arctiiform; and in outline and size it resembles *Halesidota*. The wings are long; primaries with blunted apices and rounded external margin; secondaries smaller than usual. The neuration has not been examined. The square thorax is crested centrally, and bitufted in front behind the collar. The patagia are deflected at extremities away from the body. The abdomen is stout, does not exceed the hind wings, tapers rapidly to the anus. The antennæ are stout and simple with thickened scape. The caputal scales are massed in front. The head is held forward, and the labial palpi are free and projected.

The moth is entirely of a rich soft golden yellow, with darker linear ochreous shades. The usual markings of the family are absent on the primaries, although the transverse posterior line may be faintly discerned, sinuate and geminate. The most evident markings consist of two triangulate spaces situate on the middle field of the wing. The outer and upper of these is also the larger, and they are formed by distinct dark lines meeting at right angles. The fringes are brilliant. The hind wings are paler than primaries, without perceptible markings, nor are any lines noticeable on either wing beneath. The body is concolorous with primaries above; the tegulæ, head and thoracic tufts with ochreous shadings. A specimen taken in Missouri was shown me in St. Louis by a gentleman whose name and address I have recently unfortunately forgotten and mislaid.

ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO.

The second annual general meeting of the Society was held at the Court House, Hamilton, Ontario, on Thursday evening, Sept. 27, 1872.

The President, the Rev. C. J. S. Bethune, M.A., in the chair.

The minutes of the previous meeting were read and confirmed.

The Secretary then read the Report of the Council:—

In presenting the Second Annual Report, the Council feel highly gratified at the measure of success which has attended the Society during the past year. Confined, as its membership naturally is, to a small numerical portion of the public, yet it is very evident from the increased number of new members that the Society's efforts are appreciated, and that the science of practical Entomology is being gradually forced upon the notice of our most intelligent agriculturists and horticulturists. Fifty-four new members have entered our ranks this season, several of them being entomologists of some reputation. Our total number is now 300, made up as below:—

Ontario general, . . .	70	
London Branch, . . .	51	
Kingston " . . .	15	
	136	in Ontario.
Quebec Province, . .	14	
Nova Scotia, ...	3	
British Columbia, . . .	1	
	154	in CANADA.
United States, ...	138	
England, ...	8	
Total, . . .	300	Members.

The Quebec Branch has ceased for the present to exist, but we hope shortly to see it reorganized.

Our membership in the United States is steadily increasing, and from this source we derive much substantial assistance both to our funds and our magazine. The publication of the CANADIAN ENTOMOLOGIST is still continued; the fourth volume is now nearly completed. The ENTOMOLOGIST is at present the only regularly-issued periodical on this Continent devoted to the science of Entomology. We must not omit to return our hearty thanks to those friends who have so kindly sent material to the editors, and by whose active assistance the latter have been able to keep up the good reputation of our periodical. Especially would we make honorable mention of Mr. V. T. Chambers, of Covington, Kentucky, whose admirable papers on the Micro-Lepidoptera have attracted much attention both here and in England.

Some of our members have expressed an opinion that the ENTOMOLOGIST is too exclusively scientific, and that its pages have not been made sufficiently interesting to those amongst us who are at present only beginners in the study of the science. The Council feel that there is some justice in this remark, and we would suggest to our successors, that perhaps it may be feasible to publish, in the pages of the ENTOMOLOGIST, the descriptions of our native Lepidoptera, taken from the original sources, as far as practicable, and thus give some assistance to those whose want of proper books, or inability to get even a reference to them, is an insuperable barrier to their working out for themselves the names of the various species in their collections.

The great drawback to the Society's efforts is a want of sufficient funds to procure the requisite scientific works on Entomology, many of which are very rare and costly, and also a proper supply of engravings and electrotypes of the various insects treated of. It is very difficult to meet the latter demand, owing to the want of a good artist who is well versed in the science, and able to give a correct representation of the originals; at the present time we have to send to the United States for the greater part of our wood-cuts and electrotypes.

The Council appointed a delegation to confer with the Minister of Agriculture on the subject of an increased grant, and there is every reason to hope that the result will be successful. In their application they will be strongly supported by the Fruit Growers' Association, who are making a similar appeal.

We have much pleasure in referring to the very generous donation of fifty dollars towards our library fund by the Fruit Growers' Association. It becomes indeed more manifest, as each succeeding year rolls on, that the cordial feeling existing between these two sister Societies is a strong element in their success, and furnishes fresh proof of the necessity of their continuing the work in the same able manner. We sincerely hope that this feeling will always continue.

The financial statement will, we think, be found satisfactory to the members.

The Council have thought it advisable to rent rooms at London for three years from July 1, 1872, at $80 per annum; of this the London Branch pays $30. We would here suggest and recommend that the expenses of fitting it up in a suitable manner be borne by the Society. The estimated cost is about $100. It must not be forgotten that hitherto the Society has had no proper place of keeping the stock of books, cabinets, pins, corks, etc.

The library has been largely augmented during the year, and is now the nucleus of a very fair collection of entomological books.

The property of the Society is insured for $850.

Arrangements have been made for the continuation of our Annual Reports, to be published as hitherto under the direction of the Department of Agriculture. If successful in obtaining the increased grant that we are now applying for, it is contemplated to issue with the Reports a coloured plate of insects, believing that by this means we shall be able to present to the public a much more definite and correct idea of the various insects treated of.

All of which is respectfully submitted.

EDMUND BAYNES REED,
On behalf of the Council.

Moved by Rev. R. Burnet, and duly carried, that the Report of the Council be received and adopted, and its suggestions carried out.

The Secretary-Treasurer then read his Financial Statement, which, on motion of Mr. Saunders, was received and adopted:—

RECEIPTS.

By Balance in Bank of Montreal			$233 73
" Members' Fees, including arrears			250 64
" Government grant for 1872			500 00
" Engraving, from Department for Annual Report, 1871			150 00
" CANADIAN ENTOMOLOGIST, sale of			40 98
" Pins, sale of			15 20
" Cork, "			13 87
" Library acct.—Sale of Duplicate Pamphlets	4 75		
" " Donation from Fruit Growers' Ass'n..	50 00		54 75
" Expense account, Exchange, &c			22 53
" Individual accts			18 06
			$1299 76

DISBURSEMENTS.

To Expense acct., including Editor's salary for 1871	$267 01	
" Engraving for Annual Report	152 55	
" CANADIAN ENTOMOLOGIST, printing Nos. 7—12, vol. iii., and Nos. 1—8, vol. iv.	428 16	
" Library acct	181 24	
" Individual accts	15 61	
" Balance in Bank of Montreal*	255 19	
	$1299 76	$1299 76

*This will be exhausted in meeting liabilities due up to December 31, 1871.

We certify that the above is a correct statement of accounts for the year ending Sept. 19, 1872, as shown by the Treasurer's books, with vouchers for all disbursements.

CHAS. CHAPMAN, } Auditors.
J. H. GRIFFITHS, }

The following officers were then elected :—

PRESIDENT.—Rev. C. J. S. Bethune, M.A., Trinity College School, Port Hope, Ont.

VICE-PRESIDENT.—W. Saunders, Esq., London, Ont.

SEC.-TREAS.—E. B. Reed, Esq., London, Ont.

COUNCIL.—Prof. J. Macoun, Belleville; R.V. Rogers, Esq., Kingston; J. M. Denton, Esq., London; J. Pettit, Esq., Grimsby; A. Macallum, Esq., Hamilton.

AUDITORS.—J. H. Griffiths and Chas. Chapman, London.

A vote of thanks was passed to Judge Logie for his courtesy in granting the use of his room for the Annual Meeting.

We purpose giving the President's Address in our next issue.

MICRO-LEPIDOPTERA.

BY V. T. CHAMBERS, COVINGTON, KENTUCKY.

Continued from Page 175.

HAGNO, *ante p. 130.*—The account of the neuration of this genus, given at page 130, *ante*, should be amended by inserting in line 13 from the top, between the word "vein" and the semicolon, the words "*besides a long branch from near the base.*"

There is an *apparent* discrepancy between the accounts of the neuration given on pp. 130 and 131, caused by the use of the nomenclature of Dr. Clemens on p. 131, while at page 130 it is described as it appears to me.

GELECHIA.

G.? quinqueannulella. N. sp.

General hue dark brown, tinged with purple in some lights. Palpi with alternate annulations of the general hue, and yellowish-ochreous, five of each, the tip being yellowish-ochreous. Vertex and face yellowish-ochreous, flecked with the general hue. Antennæ (which are almost too

short for a true *Gelechia*) of the general hue, with a narrow and indistinct annulus of yellowish-ochreous at the base of each joint, and the terminal joint also yellowish-ochreous. Thorax and primaries of the general hue, (under the lens minutely sprinkled with whitish). An indistinct pale yellowish-ochreous streak on each shoulder, a small patch of the same hue about the middle of the wings, and a costal streak of the same at the beginning of the ciliæ, and an opposite dorsal one. Ciliæ a little paler or more purplish than the general hue, with a hinder marginal line of the general hue at the base. *Alar ex.* $\frac{3}{8}$ inch. Kentucky.

The larva is at first white, afterwards becoming pale green, with the head brown. It resides in a web on the under side of leaves of the black Oak *(Quercus tinctoria)*. Imago in July.

G.? badiomaculella. N. sp.

(Taken under the gas-light; the annulations of the palpi, if there are any, are obliterated by burning). Head shining, pale yellowish; antennæ dark brown (under the lens dusted with whitish and pale ochreous). Primaries and thorax dark brown. A short distinct ochreous-yellow oblique costal streak about the basal quarter, pointing towards a small ochreous-yellow raised tuft just within the middle of the dorsal margin; between this tuft and the costa, but nearest to the costa, is an indistinct ochreous-yellow patch; on the disc (one at the end of the disc, the other before it) are two *minute* ochreous yellow tufts. An ochreous-yellow streak at the base of the costal ciliæ, and another opposite it at the base of the dorsal ciliæ, nearly meeting in the middle of the wing. A row of minute ochreous-yellow tufts around the apex at the base. The tufts and spots are all pale ochreous yellow. *Alar ex.* $\frac{3}{8}$ inch. Kentucky.

G. aequepulvella. N. sp.

Ochreous and fuscous, mixed in nearly equal quantities, the ochreous slightly prevailing: a small fuscous patch about the middle of the primaries, and a still smaller one about the end of the disc; last joint of the palpi fuscous externally. *Alar ex.* $\frac{1}{8}$ of an inch. Kentucky.

G. difficilisella.

Evagora difficilisella, ante p. 66.

This species can only be included in *Gelechia* by the most indefinite extension of the genus. Nevertheless, I am satisfied that it is more properly included in a genus of the vague and indefinite limits of *Gelechia* than in *Evagora*. The terminal joint of the palpi is little more than half as long as the second, which is clavate, and both joints are clothed with loose scales. The disc of the hind wings is wide and unclosed. There

is no discal nervure, but an independent? discal branch is given off from the median? or arises at the median. The median sends off a branch before it, and is furcate behind it. The subcostal is furcate, one branch going to the costal margin and the other to the tip. In the forewing the subcostal sends two branches to the costal margin before the end of the cell, one from it, and one behind it, and becomes furcate just before the tip, one of the branches going to the tip, and one to the dorsal margin. The discal vein is short, and does not emit any branch, and the median subdivides into four approximate branches about the end of the cell. The hind wing is not wider than the forewing, and is somewhat emarginate beneath the apex.

For "anterior wings hairy" in the description, read "anterior wings hoary."

G. similiella. N. sp.

See description of *G. aeque-pulvella, ante.* This species resembles it closely, but is smaller, having an *alar ex.* of only $\frac{7}{16}$ of an inch, and being slenderer. In *aeque-pulvella*, the dusting is almost entirely ochreous, whilst in this species it is as much white as ochreous. Kentucky. At the light; in August.

G. rubensella. N. sp.

This species *might* be mistaken for *G. roscosuffusella*, Clem. It is, however, a little smaller, the brownish bands are wider, and more distinct, and the spaces between them, which in *roscosuffusella* are yellowish-white, are, in this species, overlaid with fuscous on a white ground; and the apical portion of the wings in this species is fuscous, whilst in *roscosuffusella* the apex is yellowish-white. A more decided difference, however, is in the structure of the palpi. In *roscosuffusella* the terminal joint is acuminate, and is longer than the second. In this species it is scarcely so long as the second, and much less acuminate. *G. roscosuffusella* is a very variable species, but I am fully satisfied that this is a distinct species, and it perhaps resembles *G. rubidella*, Clem., as closely as it does *roscosuffusella.*

The palpi are whitish, with two large brownish spots on the under surface of the second joint; and with two annulations and the tip of the third joint of the same hue. Tongue brownish. Head yellowish-white, very faintly tinged with roseate. Antennæ brown, annulate with white. Thorax pale ochreous, with brown spots on the anterior margin and sides. Wings yellowish-white or pale ochreous, overlaid with fuscous and reddish-brown, so as to obscure the ground-colour, and entirely conceal-

ing it in the apical portion; dorsal margin pale ochreous, faintly tinged with roseate towards the base, deeply so towards the ciliæ, and with one or two distinct bright roseate spots at the base of the ciliæ. Near the base is a narrow oblique brown costal streak or band extending to the fold. About the middle, another wider one, the middle portion of which is rather reddish-ochreous than brown, and is tinged with roseate; beyond the middle is another, which extends to one of the roseate patches at the base of the dorsal ciliæ. Each of the costal brown streaks is margined both before and behind with white, which is distinct on the costa, but is only distinct in some lights on the disc. In some lights the entire wing appears to be dusted with roseate, and with small reddish-brown spots. Ciliæ pale fuscous? (crisped by the gas-light so that I can not be certain). *Alar ex.* ⅓ of an inch. A single specimen taken at light in Kentucky in August.

G. disco-ocellella, N. sp.

Dark brown, tinged with roseate or purplish; second joint of the palpi dark brown, ochreous-yellow along the inner surface; third joint ochreous yellow except the base, which is dark brown. Head ochreous-brown; antennæ brown. Thorax ochreous, with a narrow rather indistinct median brown streak. Primaries brown, tinged with roseate or purple, and faintly streaked with ochreous within the inner margin, *and with a yellowish-white spot containing a black central dot* at the end of the disc, a small black spot on the fold, and one about the middle of the wing, and with a few ochreous-yellow small spots around the apex between the nervules. *Alar ex.* 5/8 of an inch. Kentucky. Taken at the lamp in September.

AGNIPPE, *gen. nov.*

Head and face smooth, face retreating; palpi recurved, reaching beyond the base of the antennæ, the second joint somewhat enlarged towards its apex, the third pointed, and more than half as long as the second; maxillary palpi minute; tongue rather short, scaled; antennæ about half as long as the wings, simple, placed in front of the eyes, which are small and scarcely visible from in front or above.

Anterior wings with a tuft of raised scales within the dorsal margin before the middle, lanceolate-ovate, pointed; the costal attains the margin just behind the middle; discal cell long, rather narrow, closed by the gradual rounding of the subcostal and median into the short discal vein; the subcostal sends three veins from near the end of the cell, two of which attain the margin before the apex, whilst the third or apical branch attains

the apex after sending two short branches to the margin before it; the discal sends two approximate veins to the dorsal margin behind the apex; the median attains the dorsal margin, to which it also emits a single branch before the end of the cell; the submedian is furcate near the base. (All the veins are united near the end of the cell).

Posterior wing trapezoidal, a little wider than the anterior, emarginate beneath the apex, and with the costal margin excised from the middle to the tip; the costal vein attains the margin about the middle; the discal cell is unclosed; the subcostal vein is nearly straight, and attains the margin just before the apex; the median is deeply concave in the middle, sweeping up to the dorsal margin behind the apex, sending one branch from about its middle, and two other shorter ones from near its end.

Allied by the palpi to *Gelechia*, and by the neuration to *Anorthosia*, Clem., and *Chrysochorys*, Clem. I do not knowthat Ishould have separated it from *Gelechia* but for the more pointed and convoluted wings, the acute apex of which is presented to the observer as the insect reposes standing upon its face with the abdomen projecting.

A. biscolorella. N. sp.

Tongue and head yellowish-white; palpi and undersurface brownish, mottled with yellowish-ochreous. Vertex slightly dusted with brown; thorax and base of the anterior wings yellowish-ochreous, with a bluish-brown patch on the anterior margin of the thorax. Anterior wings, from beyond the base, brown with a bluish cast, from the middle to the apex thickly intermingled with yellowish-ochreous and some white. (The brown is of an indescribable tint, tinged with bluish or purple, according to the light). Antennae yellowish-ochreous, annulate with brown. *Alar ex.* ½ inch. Kentucky in April.

A. fuscopulvella. N. sp.

Palpi pale yellowish, terminal joint fuscous at the base and near the tip. Head white. Antennae yellowish-ochreous, annulate with fuscous; thorax and anterior wings whitish, tinged with yellowish-ochreous, densely dusted with fuscous: abdomen dark brown, each segment fringed with whitish. *Alar ex.* ⅜ inch. Kentucky, in April.

An interesting paper by Mr. William Couper, of Montreal, with an account of his recent collecting tour in Labrador, was received too late for publication in the present number, but will appear in our next.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from Page 179.)

[207.] FAMILY CLYTHRIDÆ.

276. CHLAMYS PLICATA *Olivier.*—Length of body 2 lines. Taken in Canada by Dr. Bigsby; also in Massachusetts.

Body obscure, bronzed. Head impressed posteriorly between the eyes; rhinarium, antennae, and an elevated space adjoining the eyes anteriorly, rufous; nose indistinctly punctured: prothorax very finely and concentrically scored, with some scattered indistinct punctures; posteriorly considerably elevated: elevation bifid; behind this elevation the prothorax is producted and emarginate: scutellum obtriangular: elytra tuberculated with several acute, compressed tubercles, the anterior ones carinated; interstices with some scattered deep punctures: space between the four posterior legs punctured with large shallow punctures.

[208.] FAMILY CRYPTOCEPHALIDÆ.

277. CRYPTOCEPHALUS PUBESCENS *Fabr.*—Length of body 2¼ lines. Taken in Canada by Dr. Bigsby.

Body black, with a *very* slight brassy tint, a little glossy, grossly and thickly punctured; downy more or less with cinerascent down: prothorax with a longitudinal levigated line, posteriorly with a double sinus: scutellum elevated towards the apex, perfectly smooth: elytra with a lateral lobe towards the base, shoulders with a tubercle. [Belongs to Suffrian's genus *Pachybrachis.*]

278. CRYPTOCEPHALUS NOTATUS *Fabr.*—Length of body 2¾ lines. Taken in Canada by Dr. Bigsby.

Body black, naked, glossy. Nose with a bilobed reddish-yellow spot at the apex; front with a yellow curvilinear spot adjoining the eyes on their inner side; between the eyes behind is a pair of round impressions, and a longitudinal intermediate abbreviated channel; antennae mutilated in the specimen, but what remains of them is reddish-yellow: prothorax levigated, but sprinkled with very minute and slight punctures, visible only under a powerful magnifier; behind with a slight sinus on each side: scutellum levigated and elevated posteriorly: elytra deeply punctured with the punctures arranged in rows, the sixth row from the suture is

interrupted, and in the interstices on each side of it are some irregular punctures, the intermediate rows do not reach the apex ; a luteous band, abbreviated next the suture and growing gradually wider till it reaches the lateral margin, and an irregular spot at the apex of the same colour, distinguish the elytra.

Fabricius describes his *C. notatus* in so few words that it admits of some doubt whether his insect is synonymous with Dr. Bigsby's here characterized. The spots at the apex can scarcely be denominated *puncta*, but as he occasionally designates a large spot by this term, and both insects are from North America, for the present it may be allowed to stand under the above name. [Haldeman states that "*C. notatus* Fab. is southern. The northern species, described by Kirby under the same name, has been called *C. sellatus* by Suffrian." Common in Toronto and other parts of Ontario.]

[209.] 279. EUMOLPUS (ADOXUS) VITIS *Fabr.*—Length of body 2¾ lines. Several taken in the journey from New York, in lat. 54° and 65°.

[210.] Body black, a little glossy, hairy with cinerascent hairs, minutely punctured. Palpi rufous, last joint black ; five first joints of the antennae rufous, the rest black : elytra and tibiae rufous.

Both Geoffroy and Fabricius complain of the ravages committed by this little species upon the vine in Europe, and probably it is equally destructive to those of America. [A very destructive insect in Europe, but of doubtful occurrence in America.]

FAMILY CHRYSOMELIDÆ.

280. CHRYSOMELA PHILADELPHIA *Linn.*—Length of body 3½—4—4¾ lines. The type and variety C taken in Canada by Dr. Bigsby. Variety B in Nova Scotia by Dr. MacCulloch.

Body oblong, black-green, naked, glossy, convex, punctured with scattered punctures. Palpi, antennae, rhinarium, and legs rufous ; labrum hairy : prothorax with the punctures at the sides more numerous than those on the disk : elytra pallid, with a longitudinal stripe at the suture with three diverging obsolete branches, and several irregular spots ; one at the shoulders larger than the rest and as it were broken, or obtus-angular, all of a dark green : the elytra are grossly punctured with scattered punctures, but next the suture the punctures are disposed in two rows, the sutural one [211] extending from the base to near the apex, where it becomes confluent with the second, both diverging towards the base and surrounding the upper branch of the sutural stripe ; there is a

fourth series of punctures at a little distance from the lateral margin, and the interstice between them is impunctured ; epipleura dark-green.

N.B. The two lower branches of the above stripe are surrounded by a common series of punctures.

VARIETY B. Smaller, green-bronzed, green spots of the elytra more numerous, epipleura pallid.

C. Sutural stripe with only one branch, the two lower ones forming separate spots ; epipleura pallid.

This varying species may be known from the succeding ones by the green colour of its body ; all the varieties are distinguished by the obtus-angular spot at the shoulders of the elytra: the varying number of green spots on these organs is produced by the separation of some of the irregular ones into distinct ones, and the lower branches of the sutural stripe doing the same. Variety C comes nearest to that figured by De-Geer and Olivier. [Quite common in Canada].

MISCELLANEOUS.

AN ERROR CORRECTED.—On page 258 of his Guide to the Study of Insects, Dr. A. S. Packard describes and figures what purports to be the larva of *Melitaea Harrisii*. His description, "made from an alcoholic specimen in the collection of Mr. Sanborn," is as follows:—

"It (the larva) is cylindrical with six acute, small tubercles in each side of each thoracic ring, while on the abdominal rings the four dorsal tubercles are large and remarkably boot-shaped, the toe being formed by a lateral prolongation of the tubercle, and the heel is also well formed, from which arises a short bristle. The specimen is dark, with a lighter stripe along the back on each side of the median line of the body. Its length is .80 of an inch."

About the middle of last May, a larva, agreeing with the above description, was handed me. It was found in or upon decaying wood, and, in confinement, fed upon that and also upon wild Aster. I supplied it with the latter, because Dr. Packard states that "it feeds on *Diplopappus umbellatus*." With me it fed freely upon *Aster dumosus*. June 14, the supposed *Melitaea* spun a slight cocoon, and, on the 29th of the same month, emerged. The imago proved to be an *Aglossa*, and is, I think, *Aglossa debilis*. It is difficult to conceive how the same characteristics, characteristics too, so striking and unusual, can distinguish the larvæ of

genera so widely separated; and it would appear that Dr. Packard, usually so correct in his statements, has, in this instance, allowed himself to fall into error.

I am indebted to Mr. T. L. Mead, of New York, for determining the identity of this larva with that described in Packard's Guide.—G. M. DODGE, Ohio, Ill.

TENT CATERPILLARS.—Apropos of the scarcity of the Tent Caterpillars this season: About ten days ago, an acquaintance informed me that the fences and sidewalks near the residence of Horace Yeomans, Esq., on Bridge Street, West Belleville, were covered by an immense swarm of Caterpillars. As I could not well go thither at that time, I sent one of my boys, who soon brought me about twenty specimens of the Forest Tent Caterpillar *(Clisiocampa Sylvatica.)*

At my earliest convenience, some three days after, I visited the spot, and found some of them still clinging to the fence. At the same time, I saw a remarkable example of their destructive powers. Near the N. E. corner of Mr. Yeoman's grounds stands a remarkably well-grown, full-branched Oak tree, about two feet diameter at four feet from the ground, and rising to a height of some sixty feet; while its branches, extending full fifteen feet from the main stem, overspread a space of over seventy square yards. In the spring and early summer, it as usual presented to the eye a dense mass of luxuriant foliage—to-day it does not boast a single leaf; they are all eaten off to the midribs, which still adhere to the footstalks, and give the tree a most extraordinary appearance. It is evident that the migration of these caterpillars was occasioned by the exhaustion of their commissariat, which obliged them to seek "fresh fields and pastures new." There must have been several broods to effect such an enormous defoliation, and indeed I found specimens of all sizes, from two inches down to half an inch in length. Another Oak outside of Mr. Yeoman's fence, near the S. E. corner of his lawn, is apparently undergoing the same process of denudation. I shall watch with interest the effect of these insect depredations on the health of the trees next season, and report the same for the ENTOMOLOGIST.—PROF. BELL, Belleville, Ont., Aug. 19.

DANAIS ARCHIPPUS.—I have often seen these tawny butterflies disporting themselves over the waters of the Kingston Bay some hundreds of yards from shore; still I was quite surprised to see, early in August, two specimens flying boldly some seven and eight miles out from the

Scarborough coast, as if they had fully determined to cross Lake Ontario and visit their American relatives. One poor fellow, however, had come to grief, and floated with outstretched wings upon the rippling wavelets. The time was about eight in the morning, and there was no wind to blow them out to sea.—R. V. ROGERS, Kingston, Ont.

DORYPHORA 10-LINEATA, the champion potato-eater, has made his way east as far as this city. I saw several crawling about in September. —R. V. ROGERS, Kingston, Ont.

DIAPHEROMERA FEMORATA, *Say*, OR SPECTRUM FEMORATUM, *Harris*. Are the "walking sticks" unusually plentiful this year? I counted, and could easily have captured, twenty-eight of them within a couple of hours in a wood near the village of Vittoria, Co. of Norfolk. They were all upon the trunks of oaks; not one was to be seen on any other kind of tree, although beech and maple were growing in close proximity to the oak. On one tree I saw seven, and was delighted thereat, as in the eastern section of Ontario, though to be found, they are yet far from common. It was at the end of August, and the process of copulation was still going on, yet I caught two little creatures of a light green colour, and the third of an inch long, which I took to be young "sticks." Packard says that in this genus "the antennæ are rather short;" my experience is that in this species they are over two inches long. Both Harris and Packard accuse the Spectre of being very sluggish and inactive; I found that on the slightest touch—even when in the act of coupling—the insect made off, marching up the trees on their tall stilt-like legs in a manner perfectiy surprising, till quickly they were far beyond the reach of pursuit.—R. V. ROGERS, Kingston, Ont.

PERSONAL.

DR. A. S. PACKARD, JR., has just returned from a four months' visit to the entomological collections of Europe, where he compared many of our foreign-named species of Lepidoptera to the types.

DR. JOHN L. LECONTE is expected home from his long stay in Europe this month of October, and will then commence the classification of the North American *Curculionidæ*. an event that all entomologists will rejoice in.

DR. GEO. H. HORN is preparing a synopsis of the genus *Lebia* of the family *Carabidæ*.